DOCUMENT RESUME

ED 103 408 SP 009 015

AUTHOR Young, James
TITLE Is All That Training Necessary?: A Study of the Effectiveness of Teacher Assistants Using Highly Structured Materials.
PUB DATE [75]
NOTE 9p.

EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS Educational Research; Elementary Education; Evaluation; *Field Experience Programs; Performance Based Teacher Education; *Preservice Education; *Teacher Education; Teachers; Teaching Assistants; Teaching Experience

ABSTRACT

The purpose of this study was to test the hypothesis that there would be no significant differences between elementary school children who were taught math, reading, and language by several untrained teacher assistants using highly structured materials, and those children who were taught by professional experienced teachers using less structured materials. In the study, two first-grade classes were taught basic skills by a total of 48 students from the Brigham Young University (Provo, Utah) elementary education program over the year. Two of the control classes had only one experienced teacher per classroom; two others had a master teacher and a student teacher in each classroom. The DISTAR reading, math, and language materials were used in the experimental classes. Testing at the beginning and at the end of the school year indicated that there were no significant differences between experimentals and controls. The children taught by inexperienced teaching assistants using the highly structured DISTAR materials did slightly better than children taught by experienced teachers using less structured materials. The authors suggest that this finding has implications both for teacher training and the utilization of preservice teachers in public schools. (DDO)

BEST COPY AVAILABLE

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED103408

Is All That Training Necessary?: A study Of The Effectiveness Of Teacher Assistants Using Highly Structured Materials

Introduction and Purpose

A recent article on teaching skills, described a series of research which indicated that given specific objectives and purposes, non-teachers were as effective in teaching these specific objectives as trained teachers.[1] The interpretation of this research in that trained teachers are not particularly skilled at bringing about specified behavior changes in learning.[2] This of course becomes an inditement and challenge to institutions of teaching training.

The BYU Department of Elementary Teacher Education has outlined a new program that is an attempt to overcome some of the above mentioned problem. Specifically, this new program is performance based in that it provides for the prospective teacher to practice what he will be doing as a professional teacher. There are two phases (II & IV) of the program which require the student to perform these teaching behaviors in the public school classroom.

The purpose of this particular study was to test the hypothesis that--there would be no significant differences between elementary school children who were taught math, reading, and language by several untrained teacher assistants using highly structured materials and those children who were taught by professional experienced teachers using less structured materials.

Method and Procedures

Phase II of the BYU Elem. Ed. program places primarily sophomore college students into a classroom setting working as a teacher assistnat with a master cooperating teacher. Specific performance objectives are

SP009 015

BEST COPY AVAILABLE

required of each student and are accomplished mostly in this classroom setting. Input seminars are given on a regular basis by a college coordinator. This same coordinator periodically observes and counsels with the TA and cooperating teachers.

Though each TA has specific performance objectives to accomplish in his classroom setting, the bulk of the experience is regulated by the cooperating teacher. This, of course, means that some TA's have a more worthwhile and meaningful experience depending on the cooperating teacher model he is randomly assigned to.

The authors of this study felt that this Phase II experience could be more effective and efficient for the TA's and the children they work with if they taught under a more tightly controlled instructional setting where a specific instructional model with specific teacher and learner behaviors were required. Also, giving the college coordinator more information about the prospective teacher early in his teacher preparation. (The only other education class the TA student has prior to Phase II is a 2 semester hour orientation class where he has experiences to more fully understand himself and how he relates to others. No methods courses have been taught at this point.)

Several school districts were approached about the possibility of utilizing their settings for this study. The authors were desirous of obtaining teachers and administrators who were willing to support this experimental Phase II for two years without feeling coerced. It was assumed that the special training, extra TA help and free use of materials would be sufficient incentive for certain first grade teachers.

After contacting several schools, the Mapleton Elementary School of the Nebo School District, Utah, was selected as the experimental school. The experimental population contained the two first grade

BEST COPY AVAILABLE

classrooms, with 21 and 22 students respectively.

Two elementary schools in the same district were selected as the control schools. The two first grades in control school A had no TA's during the school year. The two classrooms contained 24 and 25 students per classroom with one experienced teacher per classroom. The other control school, B, had 28 and 27 first grade students per classroom with one student teacher and one master teacher per classroom throughout the school year.

The two independent treatment variables included, (1) the 24 teacher assistants per year per experimental classroom or total of 48 different untrained TA's in the experimental school and (2) the DISTAR Reading, Math, and Language materials used in the two experimental classrooms.

The first semester twelve TA's worked in the experimental classrooms (6 per classroom) teaching one subject i.e., reading, math, or language for the first 3 weeks and then rotated teaching a new subject every two weeks. At mid semester, another 12 new TA's went through the same procedure.

The second semester, 12 new TA's rotated teaching two weeks per subject for the first half of the semester (6 TA's in each experimental classroom). The second half, 12 new TA's taught 3 1/2 weeks reading and 3 1/2 weeks of math while teaching a language group the whole half of the semester.

Training the TA's in the use of the DISTAR materials included for the 1st and 2nd sets of 12 TA's an initial training of three-four hour periods. A separate subject, i.e., reading, math, or language, was reviewed during each four hour session. During their training sessions, the TA's reviewed the DISTAR training manual with the college coordinator

BEST COPY AVAILABLE

and divided into pairs and practiced the instructional formats to be used with each subject matter area and under the supervision and modeling of the college coordinator.

Though all 24 TA's for the 1st semester were trained initially together, only 12 were placed in the two classrooms the first half of the semester. Thus, when the second group came into the experimental classrooms they were given a two day (four hours per day) retraining period.

For the second semester, both sets of 12 TA's, each separately, one at the beginning of the semester, the other at the middle, received three, 3 1/2 hour, training periods, again using one training period for each subject as described above. Dividing the training this way avoided the retraining of the last set as in the previous semester.

The DISTAR instructional materials used in this study included the Reading, Math, and Language Kits I and II developed primarily by Engelmann and published by SRA. These materials are highly structured in that they indicate specifically the teacher instructional formats and signals in exact wording and also spell out the specific learner responses. Continuous criterion referenced tests are used in the DISTAR program so as to provide the teacher with an ongoing evaluation of each student's progress.

The college coordinator along with two undergraduate research technicians regularly monitored the teaching behaviors of each TA filling out a performance checklist with respect to how well he ✓ followed the specific instructional formats of each program.

One of the dependent variables of the study included the Wide Range Achievement Test (WRAT) scores of the experimental groups measured at the beginning (Sept.) and the end (May) of the school year (1974). A

BEST COPY AVAILABLE

T-test was run on the mean gain scores for the three sub tests i.e., reading, math, and spelling, to test for significance against mean scores of the normative population.

Other dependent variables included the Cognitive Abilities Test (CAT) mean raw scores for the experimental and two control schools measured at the end of the school year. An analysis of variance was computed on these scores to test for significant differences.

The Iowa Test of Basic Skills, (ITBS) was the third dependent variable and was administered again at the end of the school year to the experimental and control schools. An analysis of variance was run on the six sub scores, i.e., vocabulary, word analysis, reading, language, math, and math problems to determine if there was any significant difference between the experimental and control schools.

Results

The results of the pre testing using the WRAT indicated that the experimentals fell within the expected range for first graders as compared to national norms. On the post test, scores for the experimentals were statistically significant at the .001 level in favor of the experimentals for both reading and arithmetic. (See Table 1)

Table 1

WRAT Mean Scores - Experimental Group

	Pretest Experimental	Norms	T	Experimental	Post Test Norms	T
Reading	25,230	24.08	NS	49.85	39.85	6.859*
Arithmetic	17.61	17.14	NS	23.75	22.16	5.61*

*.001

Tables two and three provide the comparative means on the Cognitive Abilities Test and the Iowa Test of Basic Skills. The

BEST COPY AVAILABLE

analysis of variance comparing the experimentals with controls showed no significant differences.

Table 2

Cognitive Ability Test

	Raw Score Means
Experimental Group	63.702
Control A	62.442
Control B	61.404

Table 3

I.T.B.S. Mean Scores

	Voc.	Word Anal.	Reading	Lang.	Math	Math Prob.
Experiment.	23.659	21.74	23.809	24.966	22.757	21.270
Control A	19.761	21.137	23.130	18.760	20.569	20.448
Control B	26.776	27.321	30.361	25.160	23.512	23.101

Because of the lack of significant differences between experimentals and controls, the authors were not able to reject the null hypothesis, i.e., the children taught by inexperienced TA's using highly structured materials did no worse or better than children taught by experienced teachers using less structured materials.

Conclusions and Interpretations

Though the data indicated that there were only slightly significant differences in favor of the experimentals, the authors concluded that the very lack of significance between the untrained (no methods) TA group and the trained control groups (master teacher in control school A and master teacher and student teachers who had methods courses in control school B) was a significant finding!

BEST COPY AVAILABLE

When one considers that in each experimental classroom a given youngster in a given subject, i.e., reading, had on the average four different untrained TA's teaching him and then multiplying this by two for the other two subjects of math and language, or in other words having 12 different untrained TA's teaching him throughout the school year and still have success as measured on the standardized tests, the question of the title of this article begins to arise.

Perhaps there is a more efficient way to train prospective teachers to change specific behaviors and at the same time be of greater service to the public schools while performing this pre-service training.

Public school teachers have often complained of the overwhelming difficulties in trying to individualize their instruction. This complaint stems partly from the lack of time and personnel and partly from the poor curriculum organization, i.e., a given textbook as opposed to individual concept and skill units. This study has demonstrated that given sufficient numbers of untrained college students armed with a set instructional materials that spell out exactly what to say and do to ellecit specific learner responses, these untrained personnel can have as much success at individualizing instruction as the single professional teacher or professional teacher paired with a student teacher.

This study also indicates that perhaps the Phase II teacher assistant experience might be more effective in training prospective teachers by giving them daily first hand experience for the primary responsibility of teaching reading, math and language while in the public classroom. Also, using specific structured materials in small ability groups helps to control for management and learning problems.

TA's having success early in their program will more likely be successful as professionals.

References

1. Popham, W. J. "Teaching Skill Under Scrutiny," Phi Delta Kappan, Vol. 52, No. 13, June 1971, pp. 549-602.

2. Ibid.

BEST COPY AVAILABLE